1999-581823/50 C02 A,MCY 1998.03.06
AMERICAN CYANAMID CO *DE 19909541-A1
1998.03.06 1998-036491(+1998US-036491) *(1999.10.14)* C07D 239/46, A01N 43/54, C07D 471/12, 487/12, 239/82

New pyrimidine derivatives useful as herbicides, especially for selective weed control

C2000-186912

Addnl. Data: SCHEIBLICH S, MAIER T, KLEEMAN A, SALTRUSCHAT H S
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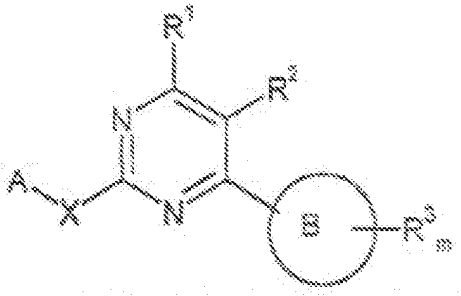
C(7-D12, 14-V2) .2

NOVELTY

2-Aryloxy- or 2-arylthio-6-aryl-pyrimidine derivatives (I) are new.

DETAILED DESCRIPTION

2-Aryloxy- or 2-arylthio-6-aryl-pyrimidine derivatives of formula (I) are new.



(I)

A = optionally substituted aryl, optionally substituted 5- or 6-membered heteroaryl or difluorobenzodioxolyl;
B = phenyl or thienyl;
m = 0-5;
R^1 = halogen, CN or optionally substituted alkyl, alkenyl, alkynyl, alkoxyalkyl, haloalkyl, alkoxy, haloalkoxy, alkylthio, alkylamino or dialkylamino;
R^2 = H, halogen, CN or optionally substituted alkyl, alkoxy, haloalkyl or haloalkoxy;
R^3 = halogen, NO_2, CN, haloalkyl, haloalkoxy, haloalkylthio, SF_5, or optionally substituted alkyl, alkenyl, alkynyl, alkoxy, alkoxyalkyl, alkoxyalkoxy, alkylthio, alkylsulfinyl or alkylsulfonyl;
X = O or S.

ACTIVITY

Herbicidal. In a pre-emergence test, 2-(2-chloro-4-pyridyloxy)-6-methyl-4-(4-trifluoromethylphenyl)-pyrimidine at an application rate of 0.4 kg/ha gave 100% control of poppy (*Papaver rhoeas*) and 91-99% control of chickweed (*Stellaria media*).

MECHANISM OF ACTION

None given.

USE

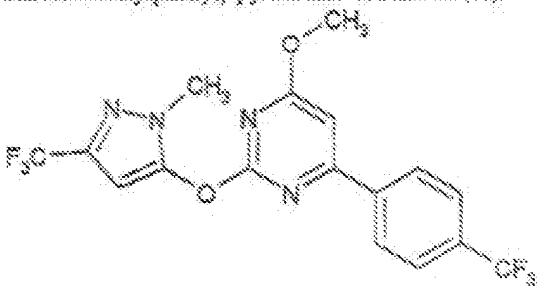
(I) are herbicides useful for selective weed control, e.g. for pre-emergence weed control in winter wheat, maize, soya, cotton or rice, or post-emergence weed control in winter wheat or maize.

ADVANTAGE

(I) have good selectivity and biodegradability. In a pre-emergence test, 2-(2-chloro-4-pyridyloxy)-6-methyl-4-(4-trifluoromethylphenyl)-pyrimidine at an application rate of 0.4 kg/ha caused no damage to winter wheat, maize, soya, cotton or rice.

SPECIFIC COMPOUNDS

9 Compounds (I) are specifically claimed, e.g. 4-methoxy-2-(1-methyl-3-trifluoromethyl-5-pyrazolyloxy)-6-(4-trifluoromethylphenyl)-pyrimidine of formula (Ia).



(Ia)

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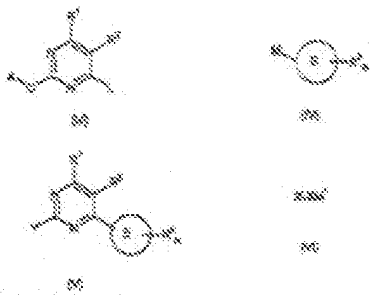
EXAMPLE

A mixture of 4-methyl-2-methylsulfonyl-6-(4-trifluoromethylphenyl)-pyrimidine (0.32 g), 3-trifluoromethylphenol (0.18 g), potassium carbonate (0.25 g) and acetonitrile (25 ml) was refluxed for 4 hours, diluted with water and extracted with methyl acetate to give 4-methyl-2-(3-trifluoromethylphenyl)-6-(4-trifluoromethylphenyl)-pyrimidine (0.39 g), m.pt. 124-127°C.

TECHNOLOGY FOCUS

Organic Chemistry - Preparation: (I) is prepared by:
(1) reacting a compound of formula (III) with a metal compound of formula (IV) and oxidizing the product when L is hydrogen; or
(2) reacting a compound of formula (V) with a compound of formula (VI).



L = H or a leaving group;
M = Li, Mg, Zn, B or Sn;
Y = a leaving group; and
M^1 = H or metal.
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